## A Collection of Fishes from the Coasts of Natal, Zululand, and Cape Colony.

By<br>C. Tate EBegrall, M.A.<br>With Plates XXXVII-XLII.

A collection of marine fishes from Natal, Zoluland, and Cape Colony, received from Dr. Warren, is of considerable interest. The specimens were obtained at five localities, viz. Kosi Bay, Kululand ; Scottlurgh, Durban Bay, and Congella, near Durban, Natal; and sixteen miles N.E. of Bird Island, Algoa Bay.

A complete list of the collection is first giren, and afterwards the new species are described.

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\text { I. }-\mathrm{SELACHH}
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Fam. Carcharidow.
Mustelus vulgaris M. \& H. . Bird Island.
Fam. S'cyliorhinidz.
S'eyliorhinus africanns (L.) . . Bird Island.
" $\quad$ edwardsii (Cur.)
" variegatus (A. Smith) . "
," natalensis (Rgn.) . .,
Fam. Squalidafo
Áqualus aentipinnissp.n. . . Rird Island. Pliotrema warreni Rgn.

Fam. Squatinide.
Squatina africanasp. . . . Durban Bay.

Fam. Torpelinide.
'T'orpedo marmorata Risso. Bird Island, Congella, and Algoa Bay.
Astrape capensis (L.) . . . Bird Island.

Fam. Reinobatioe.
Rhinobatns colnmme M. \& H. Bird Island.

Fiam. Raildz.
Raia marginata Lacep. .
" ocellifera Rgn.
", rhizacanthus Rgn.

Fam. Dasybatiow.
Dasybatis narnak (Forsk.). . Durban Bay.
Myliobatis aquila (L.) . . . Bird Island.

Fam. ('himarioz.
Callorhynchus antarcticus (tacep.) . Bird Island.

> II.-TELEOSTOMI.

## Fanl. Cleppior.

C'lnpea durbanensis Rgn. . . Durlan Bay. Spratelloides delicatulus (Benn.) . Kosi Bay.

Fam. Sileride.
(ialeichtlys feliceps C.\& $r$. . Bird Island.

Fam. Anglillidz.
Murenesox cinerens (Forski.) . Durban Bay.
 kirkii (ithr. .

Bird Lsland.
Kosi Bay.

Fam, Murfaidas.
Murena polyophthalmus Blkr. Jumban Bay:
,, macrurus Blhr.
Kosi Bay.

Fam. Sicombresocidza.

Kosi Bay.
belone robusta dithr.

Fam. Mugilida.
Mugil robustus G Chr.
Kosi Bay.
" ceylonensis Gthr.
,, smithii Gther.
, coustantia C. \& V.

Fimin. Atherinidiz.
Atherina pingnis Lacep.
Kosi Ba!.

## Fam. Gadinaz.

Merluceins capensis Costelm.
Bird Island.

## Faim. Pleuronectidez.

Platophrys pantherinus (Röpr.) . . Kosi Bay.
Psendorhombus russellii (Gira!)
Durban Bay.
Paralichthodes algonsis (rilche.
Syuaptura ciliata (rilche.
" pectoralis K"uユ.
Bird Island.
Plagusia marmorata Bllir.
Kosi Bay.

## Fam. Serranide.

Epinephelus sonnerati ( $C . \& V_{\text {. }}$ ) . Durban Bay.

| $"$, | andersoni Blgr. |
| :--- | :--- |
| $"$ | tauvina (Forsli.) |
| $"$ | hemistictus (Rüm $)$ |
| $"$, | maculatus $(B l)$. |

- Congella.

Rüpl.
Kosi Bay.
maculatus (Bl.)
Therapon servus ( $B l$.)
Durban Bay.
'arascorpis typus Bllir.
Bird Island.
Apogon warreni sp. $n$.
Durban Bay.
Cirrhitichthys maculatus (Larep.)
"
Pomatomus saltator (L.)
Bird Island.
Lutianus gembra (C.\& V.).
Durban Bay.
,, johnii (Bl.)
", marginatus (C.\&V.) . .,

Fain. Pomadasidz.
Pomadasys twiophorns sp. $\quad$. . Kosi Bay.

| $"$ | multimaculatus (Playf.) | Durban Bay. |  |
| :--- | :--- | :--- | :--- |
| $"$ | hasta (Bl.) | Duth. \& Playf.) | . |

Diagramma griseum C.\&V. . Kosi Bay. " affine Githr.

Durban Bay.
., crassispinum R"̈ll'.
Kosi Bay.

Fam. Sparidz.
Cantharus emarginatus $C$. $\& V$.
Bird Island.
Dentex argyrozona C. \& $V$.
"
" undulosus sp. $n$.
Kosi Ray.
Lethrinus nebulosus (Forsh.)
Sargus cervinus (Lome)
"
", capensis A. Smith . Kosi Bay and Durban Bay.
" holubi Star..
, nisrofasciatusspu.
" "
" nlgrofasciatussp. $n$.
Bird Island.
fagrus laniarius $C$ 。\&V.

| Chrysophrys gibuiceps ( ${ }^{\text {c }}$ \& $V$. | Bird Island. |
| :---: | :---: |
| , hasta (Bl. Sclun.) | Kosi Bay. |
| ,, bifasciatus (Vorshi.) | , |
| ", sarba (Forst.) | Durban Bay |
| Pagellus lithognathos C. \& V | Bird Island |
| , mormyrus (L.) | Kosi Bay. |
| Fam. Mullime. |  |
| Mulloides Havolineatus (Lacep.) | Kosi Bay. |

Fam. Liognathidza.


Fam. Scienidee.
Otolithus æquidens $C$. \& $V$.
Bird Island.
Umbrina ćapensis P'trút.
Sciona aquila Lacep.
,, margaritifera Haly.
Durban bioy
F'ain. Sillaginide.
Sillago sihama (Forsk.) . Kosi Bay.
", chondropus Bllir.
Durban Bay.
Fam. Pempherilat.
Pempheris molucca C. \& V. . Kosi Bay.
F'am. Scorpldida.
J'settus falciformis (Lecte). . Kosi Bay.
Fam. ('yphosid.z.
Cyplusus fuscus (Lucp) . . . Kosi Bay.
Fam. Chetodontidz.
Chetodon vagabundus. $L$.
Kusi Bay.

Fam. Drepanida.
Drepane punctata (L.) . . Durban Bay.

Fam. Teuthidide.
Tenthis oramin (Bl. Schn.) . . Kosi Bay.
Fam. Acantherid.f.
Acanthurus triostegus (L.) . Kosi Bay.
, strigosus Bem.
Fain. Pomacentride.
Glyphidodon sordidus (Firski.) . . Kosi Bay.
," colestinus C. \& V.
Fam. Labride.
Julis umbrostigma Rärp. .
Kosi Bay. ," lunaris (L.)
Platyglossus scapularis (Benn.)
Fain. Scaride.
Psenduscarus maculosus (Lacep.)
Kosi Bay.
Fam. Carangide.
Trachurus trachurus (L.) . . Bird Island.
C'aranx carangus (Bl.) . . Durban Bay.
, rottleri (Bl.)
"
ciliaris (Bl.)
Kosi Bay.
", melampygus ('\& $\mathbb{B}$.
,. speciosus (Forsk.) .
..
," hippos(L.)
Trachynotus oratus (L.) . Kosi Bay and Durban Bay.
Chorinemus sancti-petri ('. \& K.
Durban Bay.
Fam. Trichieride.
Lepidopus candatus (Euphras.)
Bird 1sland.

Fan. Gobidze.

Fam. Buexviliz.
Blenuins bifilum (rthr.
, punctifer sp. $n$.
Salarias quadricornis C. \& $V$.
., rirmlatus Rüpp.
," kosiensis sp.n.
Fam. Ophididz.
(ienypterns capensis (J. Smith) . . Bird Island.
Fam. Acorpmide.
ficorpena natalensis Rign.
.. rosea Day.
Bird Island.
,, haplodactylus Blkr.
Pterois miles (Bem.) volitans (L.)
Agriopus spinifer A. Smith
Fam. Triglide.
Trigla capensis ('\& $\mathbb{E}$.
Bird Island.
Fam. Platycephalid.z.
Platyeeplalus tentaculatus Rüpp. insidiator (Forsk.)

Fam. Balistipe.
Balistes aculeatns $L$.
Kusi Bay.
Fam. Oefrachoxtide.
Ostracion cubicus $L$.
Fam. Tetronoxtine.
Tetrodon honckenii Bl.
Kosi Bay.
" immaculatus Bi. Schn.
Kusi Bay.

Durban Bay.

## Descriptions of the Nine Neil Species.

Squalus acutipinnis sp.n. (Pl. XXXVII.)
Acanthias blainvillii (part.) Gë̈nth. Cat. Fish. viii, p. 419 (1870).

Snout pointed ; nasal flaps bilobed ; distance from nostrils to end of snout $\frac{2}{3}-\frac{3}{4}$ that from month to nostrils. Base of second dorsal (withont the spine) $\frac{1}{\frac{1}{4}}$ of its distance from the upper candal lobe and $\frac{1}{2}$ that of the first (withont the spine), which is less than its height and abont $\frac{2}{9}$ of its distance from the second dorsal ; spires without ridges or grooves, that of the second dorsal not quite so high as the fin, in great part exposed. Pectoral extending well beyond the end of the base of first dorsal and at least $\frac{2}{3}$ of the distance from last gill-opening to origin of rentral, with the free edge nearly straight, the posterior angle nearly a right angle and the anterior angle much more acnte than in S. blainvillii; ventrals not nearly reaching the second dorsal. Lower candal lobe withont posterior notch, its lower edge contimnons with the posterior edge of the mper lobe. (irayish or brownish above, pale below.

South Africa; Manritins.
Four specimens, a stuffed one from Mauritius (Robillard), one of 560 mm . from Natal, presented br Dr. E. Warren, one of is 40 mm. from Table Bay, presented by Dr. J. D. F. Gilcluist, and one of 190 mm . from the C'ape of Good Hope, from sir Andrew Smith's collection.

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\text { Squatina africana } \times p \cdot n \text {. (Pl. XXXYIII.) }
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Folds at sides of head not produced into loben. Onter nasal flap with entire edges; ; inner flap with two nearly simple prolongations, the outer of which has a fringed lobe at its base. Distance between the spiracles a little less than the interocnlar widtli. Onter angle of pectoral nearly a right angle;
distance from anterior angle to posterior end of base of pectoral $\frac{3}{5}$ the extreme length of the fin. Tentral not reaching the vertical from origin of first dorsal. Width of tail (at the base) about $\frac{1}{4}$ of its length. Base of first dorsal a little more than $\frac{1}{2}$ its height, which is a little more than its distance from the second; second dorsal a little shorter, but scarcely lower than the first ; interspace between the dorsals a little less than the distance from second dorsal to caudal, much less than the distance from base of tail to origin of first dorsal. Posterior edge of candal fin motched, the upper lobe vertically truncate above, the edge becoming. oblique before its junction with the lower lobe, which is obliquely truncate. Upper surface with small pointed denticles, each with 3 keels; no median series of enlarged denticles ; small imbricated denticles at onter edges of paired fins, extending on to their lower surface and, on the pectoral, forming an inferior marginal strip abont $\frac{1}{4}$ as wide as the fin; denticles on lower surface of tail not extending forward to its base; lower surface of head and abdomen naked. Brownish, with numerous pale spots covered with brown reticulations.

A single specimen ( $\delta$ ), 800 mm . in total length, from Durban Bay, Natal.

This species is nearest to Sf. californica Ayrex, which differs in markings and in having the greater part of the abdomen and of the lower smrtace of the paired fins covered with denticles in the adnlt. From the Japmese siq. nebulosa Regom it differs especially in coloration, in having the folds at the sides of the head not produced into lobes and in the form and dimensions of the fins.

The species of Squatina may be arranged thes:

1. A mid-dorsal series of enlarged denticles present in the adult.
(a) Distance between the spiracles greater than the interocular width.
2. japonica Blepe:
(B) Distance between the spiracles not greater than the interocular width.

Distance from anterior angle to posterior end of base of pectoral much more than $\frac{1}{2}$ the extreme length of the fin. 2. armata Philippi.

Distance from anterior angle to posterior end of base of pectoral a little more than $\frac{1}{2}$ the extreme length of the fin.
3. aculeata Cur.
II. No mid-dorsal series of enlarged denticles in the adnlt. (A) Dermal denticles not carinate.

Folds at sides of head produced into an angular lobe on each side.
4. angelus Dum.

Folds at sides of head not prodnced into lobes.
5. anstralis Regan.
(в) Dermal denticles tricarinate.

1. Folds at sides of head not produced into lobes.

Abdomen and lower surface of paired fins, in the adult, in great part covered by dermal denticles.
6. californica Ayres.

Abdomen naked; lower surface of paired fins with marginal strips of denticles.
7. africana Regan.
2. Folds at sides of head produced into two convex lobes on each side. 8. nebulosa Regan.

## Text-fig. 1.



Ophichthys unicolor sp. . ('Jext-fig. 1.)
'Teeth pointed, suthequal, in a donble series in both jaws and on the romer. Length of head $\frac{\partial}{\overline{5}}$ the distance from gill-
opening to vent; tail nearly twice as long as the rest of the fish. Snont nearly twiee as long as eve, projecting beyond the month; cleft of month about $\frac{1}{3}$ the length of head, extending to below the posterior edge of eye. Origin of dorsal a little behind the end of the pectoral, which is $\frac{2}{9}$ as long as the head. Uniformly brownish.

Sisteen miles N.E. of Bird Island at a depth of 40 fathoms; bottom mud.

A single specimen, 260 mm . in total length.
Apogon warreni xp. u. (Pl. NlIII.)

Depth of body equal to the length of head, $2 \frac{3}{t}$ in the length of the fish. Snont $\frac{3}{3}$ as long as eye, the diameter of which is $3 \frac{1}{5}$ in the length of head; interorbital width 5 in the length of head. Maxillary extending slightly berond the vertical from posterior edge of eye ; lower jaw shorter than the upper. Seales $25^{-\frac{2}{2}}$. Dorsal VI, I 9 ; second spine much stronger and a little longer than the third, nearly ${ }^{-\frac{1}{2}}$ the length of head; first branched ray the highest, $\frac{3}{5}$ the length of head ; free edge of soft dorsal straight. Anal II 8. C'andal notehed. Pectoral $\frac{2}{3}$ the length of head; ventrals extending to the anal. A dark band from eye to base of pectoral; a large dark longitudinally expanded spot on the candal pedmele.

Kosi Bay, Zululand.
A single specimen, 50 mm . in total length.

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Pomadasys temiophorms*p.n. (Pl. NXNIN.)
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Depth of body $-\frac{1}{4}$ to $-\frac{1}{3}$ in the length, length of head $3 \frac{1}{3}$ to $3 \frac{1}{2}$. Snont shorter than eye, the diameter of which is $3 \frac{1}{2}$ in the length of head and nearly equal to the interorbital width. Maxillary extending to below anterior $\frac{1}{2}$ of eye; depth of preorbital nearly equal to the diametor of eye; 12 gill-raker: on the lower part of the anterior arch. Scales $51-54 \frac{7}{16}$. Dorsal XI[ 14-15, commencing above the opercular cleft; fomrth spine the longest, a little more than $\frac{1}{2}$ the length of head; soft dorsal highest anterionly, with straight or slightly
yor. 1, part 3.
convex free edge, scaly at the base and with a series of scales behind each ray; longest rays less than $\frac{1}{2}$ the length of head. Anal III 7 ; second spine the longest, $\frac{3}{5}$ to $\frac{2}{3}$ the length of head. Candal truncate or slightly notched. Pectoral longer than the head, extending to above the origin of anal ; ventrals reaching the rent. Five or six pairs of dark longitudinal stripes on each side of the body, the stripes of each pair confluent posteriorly ; vertical fins dusky.

Kosi Bay, Zululand.
Two specimens, 260 mm . in total length.
Allied to P. furcatus B7. Schn., which has III 8-10 anal rays, and still more closely to P. anas Val., described and figured by Sausage in his work on the fishes of Madagascar. The latter has the snont more produced, the maxillary not extending beyond the vertical from the anterior edge of the eye, and the dorsal commencing above the axil of the pectoral, which is shorter than the head.

> Dentex undulosus sp, u. (Pl. XL.)

Dentex rupestris (non Cur. \& Tal.) Castoln. Poiss. Afr. Austral., p. 28 (1861).
Depth of body $2 \frac{3}{4}$ to 3 in the lengtli, length of head $3 \frac{1}{3}$ to $3 \frac{2}{3}$. Snont $1 \frac{1}{4}$ to 2 as long as eye, the diameter of which is $3 \frac{1}{2}$ to $5 \frac{1}{2}$ in the length of head; interorbital width 3 to $3 \frac{1}{2}$ in the length of head. Jaws equal anteriorly ; maxillary nearly reaching the vertical from the anterior edge of eye; 4 canines in the upper jaw, moderately strong, the imner pair scarcely smaller than the onter; 6 canines in the lower jaw, the imermost pair small. Depth of preorbital equal to the diameter of eye (adult) or less (young); cheek with 9 or 10 series of scales; praoperculum scaly; 14 to 16 gill-rakers on the lower part of the anterior arch. sicales $.57-60 \frac{970}{15-20}$. Dorsal XII 10 ; origin above axil of pectoral ; spines of moderate strength, the third to the fifth the longest, $\frac{2}{5}$ or a little more than $\frac{2}{5}$ the length of head; soft
rays $\frac{1}{3}$ or nearly $\frac{1}{3}$ the length of head. Anal III 9 ; second and third spines subequal, $\frac{1}{3}$ or nearly $\frac{1}{3}$ the length of head. Candal forked. Pectoral longer than the head, extending to above the origin of anal. Upper lalf of body with from 3 to ( 6 undulating longitudinal dark stripes with pale edges; a large hackish spot on the side above the middle of the pectoral.

Sixteen miles N.E. of Bird 1sland, Natal, and Table Bay, ('ape Colony (Gilchrist).

Dentex argyrozona Cur. \& Vel. is nearest to this species, lont has a larger month, stronger lateral camines, 6 to 8 scales in a transverse series above the lateral line, III 8 anal rays and a different system of coloration.

> Sargus nigrofasciatus sp.n. (Pl, SLI.)

Depth of body 2 to $2 \frac{1}{3}$ in the length, length of head 3 to :31 . Snont with nearly vertical profile, longer than eye, the diameter of which is $4 \frac{1}{2}$ in the length of head; interorbital region very conrex, its width $2 \frac{2}{3}$ in the length of head. Maxillary extending to below anterior $\frac{1}{3}$ of eye; depth of proorbital equal to diameter of eye; cheek with 5 series of scales; 10 short gill-rakers on the lower part of the anterior arch. Incisors moderately broad, implanted vertically in the upper jaw, obliquely in the lower; 4 or 5 series of molars in the upper jaw, 3 in the lower. Scales $5.5-57-\frac{6-7}{13-14}$. Dorsal XI 12, commencing above the axil of pectoral; fourth spine the longest, $\frac{1}{2}$ to $\frac{3}{5}$ the length of head; last spine $\frac{2}{7}$ to $\frac{1}{3}$ the length of head and as long as the soft rays. Anal III 11; second and third spines subequal, as long as the last of the dorsal. Caudal forked. Pectoral longer than the head, extending beyond the origin of anal; rentrals reaching the rent. Body with 6 or 7 blackish vertical bars; thoracic region and upper part and sides of head blackish.

Sixteen miles N.E. of Bird Island, Natal, at a depth of 40 fathoms.
'I'wo specimens, 360 mm . in total lengtl .
Allied to S. holnbi Stdr. which has the procorbital deeper,
the spinous dorsal lower, the soft dorsal nsnally of thirteen rays, and the coloration uniform except for a small dark spot at the root of the pectoral.

Blennius punctifer, sp. $n$. (Pl. NLII.)
Depth of body $3 \frac{2}{3}$ to 4 in the length, length of head $4 \frac{1}{5}-4 \frac{2}{5}$. Snout obtuse, with nearly vertical anterior profile. Diameter of eye $3 \frac{1}{2}$ to 4 in the length of head and twice the width of the flat interorbital region. Maxillary extending to below posterior edge of eye; very small canines in the lower jaw. On each side a short fringed nasal tentacle and a similar supra-orbital tentacle ; occiput witl a median series of simple filaments. Dorsal XII 14-1.5, with a very slight notch, commencing above the edge of preoperculmm, ending just before the candal ; spinous part as high as or a little lower than the moderately elevated soft-rayed part. Anal 17-19. Caudal subtruncate. Pectoral extending to above origin of anal. Back with 6 more or less distinct dark cross-bars; mumerous very small dark spots on head, body, dorsal fin and base of pectoral fin; series of larger spots on caudal, anal and distal part of pectoral ; a more or less distinct dark spot or ocellus behind the first dorsal spine.

Kosi Bay, Zululand and Port Natal (Ayres).
Three specimens, measuring up to 100 mm . in total length.
Blennius cristatus Limn. is described by Cuvier \& Talenciennes from the Island of Ascension as having the supra-orbital tentacles very small and simple, the anal fin with 16 rays, and the markings somewhat different.
Salarias kosiensis "p.n. (Pl. XLII.)

Depth of body equal to length of head, $3 \frac{2}{3}$ in the length of the fish. Snout obtuse, with nearly vertical anterior profile. Diameter of eye $\overline{5}$ in the length of head and equal to the width of the somewhat concave interorbital region. Maxillary extending to helow posterior edge of eve ; canines present in the lower jaw. On each side a short fringed nasal tentacle

## fishes fron natal, zillutand, and cape colony. 25.5

and a long simple supra-orbital tentacle; a transverse series of short filaments across the nape. Dorsal XI 12, deeply notched, ending just before the candal; spinous part lower than the rather elevated soft-rayed part. Anal 15. Candal rounded. Pectoral extending beyond the origin of anal. Blackish-grey, with some white spots and markings.

Kosi Bay, Zululand.
A single specimen, 185 mm . in total length.
This species is very close to S. variolosus $C$. \& V., which has the supra-orbital tentacles small and fringed.

SQUALUS ACUTIPINNIS




